



This issue's cover photo was taken during a prescribed burn on N.C. Dept. of Agriculture & Consumer Services Umstead Research Farm tract. Fire can be used to achieve forest management goals including silviculture, reforestation, wildlife enhancement, and restoration. Fire may reduce soil disturbance that might otherwise happen from using heavy equipment to accomplish the same task. When using prescribed fire, two water quality protection goals include:

1. Retaining a duff layer on the soil by using low intensity burn near the stream (as shown above).
2. Minimizing the risk of erosion into waterways from firelines by proper planning, construction and stabilization.

See the [fire management section in the BMP manual](#) for additional recommendations related to fire and water quality.

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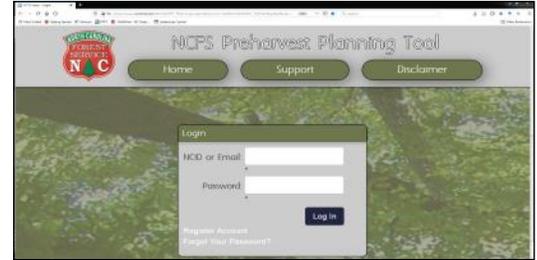
## Five Important Ways You Can Keep Mud Out of the Creek

### 1. Plan the job.

The time spent planning and laying out roads, trails, and decks will prevent many problems.

### 2. Stay away from streams.

Try to plan and build roads and decks in locations where a streamside management zone can effectively filter excessive nutrients and capture eroded soil.



Try the Free [Forestry Preharvest Planning Tool](#).

### 3. Implement abundant BMPs at stream crossings.

When streams must be crossed, review and use recommended BMPs for the crossing type (bridge, culvert, ford, or pole) and on the approach way leading to the crossing.



Abundant BMPs at a stream crossing.

### 4. Design roads and decks to shed water.

Use enough diversions (rolling dips, waterbars, broad-based dips) to control runoff volumes to a level that keeps runoff from connecting directly to waterways.

### 5. Retire or close roads that are not needed.

Do not wait until the job is finished to apply BMPs along roads and trails.



Runoff diversions along a forest road.

## Potential Streamside Management Zone Functions

A streamside management zone (SMZ) is a forested area adjacent to a stream where ground disturbance by machinery is minimized. Many foresters have adopted the term "SMZ" noting that the name implies that this area can be "managed". If you have been around natural resource work, research, or teaching, you have likely heard about the importance of SMZs for various objectives. In forestry, SMZ widths and the level of management (i.e., thinning) are discussed in the context of water quality as well as other objectives (i.e., timber, wildlife, carbon sequestration, aesthetics, etc.). Varying landowner objectives and unique forest conditions complicate SMZ decisions and render the age-old adage of "it depends". So how can you make a wise width and/or thinning decision? To examine that question, let's consider and better understand some potential SMZ functions shown in these images.

As a reminder, the North Carolina FPG rules require that a SMZ be established and maintained along any intermittent stream, any perennial stream, and alongside any perennial waterbody. The



FPGs are outlined in [Forestry Leaflet #WQ-1](#), and SMZs are discussed in [Forestry Leaflet #WQ-4](#).

## Potential Streamside Management Zone Functions Continued

Potential SMZ functions continued:



Other SMZs functions exist (i.e., aesthetics, seed source diversity, timber production, etc.).

Decisions about SMZ widths and thinning levels are ultimately driven by a landowners objectives, water quality standards, and other rules/laws that apply to streams in your area. The reader is encouraged to consult with an experienced forestry professional who has read published research work and has previously implemented successful SMZs on similar tract characteristics with similar landowner objectives.

Contact your [local county ranger](#) or water quality forester (see next page) to discuss BMPs on your tract.

# Recent Water & Forestry Podcast and Webinars

Keeping Forests, a nonprofit organization comprised of several forestry partners, has developed a new series of podcasts entitled "How the River Flows". This podcast focuses on forest conservation and water quality. The first episode is available now: <https://www.keepingforests.org/podcast>. The first episode features Dr. Margaret A. Walls and the discussion is around how forests naturally reduce flooding, how forest management leads to improved water quality, and how providing incentives and markets helps conserve private forestland.



The Source Water Collaborative is a national organization comprised of 29 national organizations with the goal of protecting drinking water at its source. Check out their website: <https://sourcewatercollaborative.org/connect-with-others/learningexchange/>. Note the two recorded webinars available for viewing in the featured resources.

The NC Soil and Water Conservation's Winter Training Series featured a webinar on Forestry Water Quality Requirements and BMPs. Check it out here: <https://youtu.be/at3A0aHeY3g>

**N.C. Forest Service - Water Quality**

[www.ncforestservation.gov/water\\_quality/water\\_quality.htm](http://www.ncforestservation.gov/water_quality/water_quality.htm)

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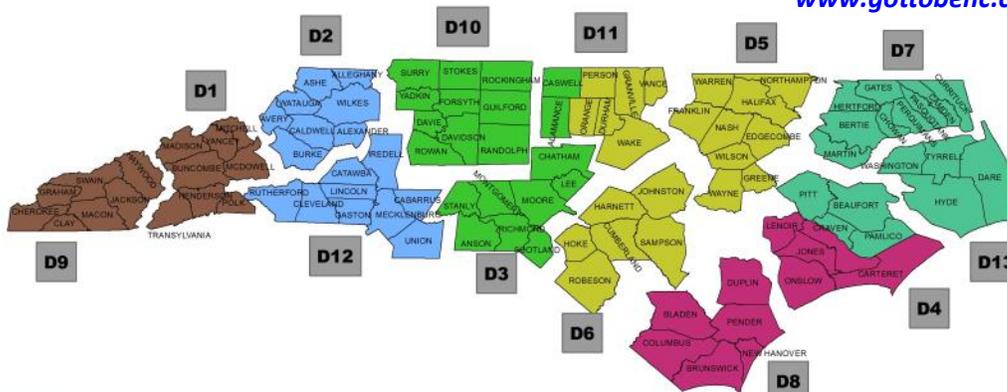
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